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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Redevelopment of Spectrum to)
Encourage Innovation in the)
Use of New Telecommunications)
Technologies)

DOCKET FILE COPY ORIGINAL

ET Docket No. 92-9

RM-7981

RM-8004

COMMENTS OF
MCI TELECOMMUNICATIONS CORPORATION

MCI Telecommunications Corporation ("MCI"), by its undersigned attorneys, hereby submits its comments in response to supplemental comments filed on May 19, 1993 by Alcatel Network Systems, Inc. ("Alcatel"). The Alcatel filing provides a Compromise Plan in order to remove differences from previous filings and expedite Commission action on this docket.

MCI currently operates over 800 fixed point-to-point microwave radio paths in the 4 GHz, 6 GHz, and 11 GHz common carrier bands and the 18 GHz and 23 GHz bands shared with private users. Most of these paths carry high-density digital traffic and operate in a 1:N frequency protected configuration. A recent search of our license files revealed the following numbers of frequency protected paths

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for each configuration in the 4 GHz, 6 GHz, and 11 GHz bands:

Configuration	4 GHz	6 GHz	11 GHz
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1:1	0	24	11
1:2	0	51	13
1:3	17	55	13
1:4	5	24	6
1:5	22	37	3
1:6	0	30	2
1:7	21	74	5
1:8	7	--	1
1:9	43	--	1
1:10	4	--	2
1:11	158	--	0

These numbers clearly show that MCI frequently uses the maximum traffic carrying capabilities of the 4 GHz and 6 GHz bands. In fact, over 90% of our applications in these bands during the last two years have been for adding channels to an existing 1:N system. Over 40 paths in the MCI system now operate in both the 4 GHz and 6 GHz bands with dual 1:N configurations and another 38-hop backbone route is currently undergoing this expansion.

The above data demonstrates that the current availability of twelve 20 MHz channels in the 4 GHz band and eight 30 MHz channels in the 6 GHz band is not excessive for common carrier applications and should be maintained. MCI continues to be concerned that other commenters are endorsing the sacrifice of some of these wideband channels for the provision of numerous narrowband channel allocations. Our previous comments in this matter have stated the reasons for our concerns and why we think this action is wrong.

At 4 GHz, the Alcatel plan drops a provision for new 40 MHz bandwidth channels. MCI pointed out in previous comments that highly efficient radios (7.77 bits/Hertz) with this bandwidth are now available and will be compatible with synchronous optical networks. The improvement in spectral efficiency from currently used 20 MHz bandwidth radios (4.5 bits/Hertz) should be encouraged by allocating 40 MHz channels in the 4 GHz band. Adjacent 20 MHz channels are used on a single path now, so the Alcatel argument that satellite users will be adversely affected will only apply to a limited number of poorly selected earth station locations.

In the lower 6 GHz band, the Alcatel plan continues to endorse sacrificing two of the existing eight wideband channel pairs for use by narrowband systems. This band is not underutilized by wideband systems and planning by most carriers, including MCI as the chart above shows, is based on the availability of frequency additions to a full eight channel pair configuration. This band is a model of efficient spectrum reuse because of the use of highly directional antennas and the early adoption of automatic transmitter power control (ATPC) to further reduce intersystem interference. None of the eight wideband channel pairs in the lower 6 GHz band should be made available for narrowband systems.

At 11 GHz, the Alcatel plan allows for 30 MHz channels, but spaces them out where only twelve pairs are available. MCI has recently planned several paths using a frequency

plan of sixteen 30 MHz channel pairs, thereby improving the traffic carrying capability of the band by 33% from currently available radios. The Alcatel plan does not accomplish this and is pointless.

The Alcatel plan to allow for growth without frequency or polarization changes leaves gaps in the channel plans, sacrificing the chance for maximum spectrum utilization. This idea also means that narrowband channels will quickly block all of the wideband channels. Under their plan, for example, the first three 10 MHz users in the lower 6 GHz band will use 5945.20 MHz, 5974.85 MHz, and 6004.50 MHz and block the first three 30 MHz channels rather than use 5935.32 MHz, 5945.20 MHz, and 5955.08 MHz and block only the first 30 MHz channel. Their plan definitely provides for a convenient growth capability, but at the expense of efficient use of the spectrum. Such a situation cannot be allowed.

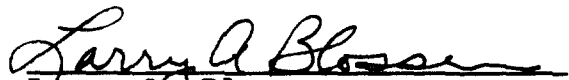
A lack of narrowband channel allocations will exist in the lower frequencies if these MCI comments are adopted. The only apparent solution is to aggressively pursue the sharing of government spectrum at 1710-1850 MHz and 3600-3700 MHz. This action appears long overdue.

To reiterate the MCI position on this matter, there is still a market for expanding long-haul, wide-bandwidth, common carrier microwave radio networks. The economics of building these systems usually require initial construction

with minimum capacity and future expansion as market development dictates. The chart above demonstrates this for the MCI system. Several FNPRM commenters cited the need for future growth channel protection on microwave routes and MCI wholeheartedly agrees. Absence of this capability will result in many poorly-served intermediate size markets. Protection of future growth frequencies within the current common carrier frequency coordination process has produced very few unresolvable conflicts; parameter changes resolve most conflicts and surrendering of growth channels on request resolves most of the rest. MCI strongly encourages the Commission to preserve wideband-only frequency allocations in the 4 GHz and lower 6 GHz bands and allow growth channel protection capabilities for these systems.

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CERTIFICATE OF SERVICE

I, Vernell V. Garey, do hereby certify that copies of the foregoing "Comments" were served by first class mail, postage paid (unless otherwise indicated) on the following parties this 14th day of June 1993:


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